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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/752,464

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Hideki Yamanaka

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EXAMINER

STRANGE, AARON N

ART UNIT

PAPER NUMBER

2153

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,464

Applicant(s)

YAMANAKA, HIDEKI

Examiner

Aaron Strange

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The following drawings are objected to: Figures 1,7,and 14.
2. With regard to figure 1, on page 9, lines 19-22 of the present application, Applicant discloses that items (1) and (2) correspond to an agent relaying device (13). On page 9, line 22 to page 10, line 6 of the present application, Applicant discloses that items (5) – (10) correspond to items in the agent repeating device of figure 7. It is unclear if items (1) and (2) contain items (5) - (10) or are a separate device. The drawing suggests that the server can send information to (1) of (5) alternatively, but the disclosure suggests that items (1), (2) and (5) – (10) are all part of the same device.
3. With further regard to figure 1, box (5) appears to have a typographical error, ---deceiving device---. It appears that Applicant intended ---receiving device---.
4. With regard to figure 7, the large center box is labeled ---Agent Repeating Device---, but is referred to as an ---agent relaying device--- in the Brief Description of Drawings on Page 5, Lines 16-17 of the present application.
5. With regard to figure 14, the large center box is labeled ---Agent Repeating Device---, but is referred to as an ---agent relaying device--- in the Brief Description of Drawings on Page 6, Lines 6-7 of the present application.
6. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claims 6 and 19 are objected to because of the following informalities:
8. Claim 6 appears to have a typographical error –serer and a client--- on line 2. It appears that Applicant intended ---server and a client---.
9. Claim 19 appears to have a typographical error –serer and a client--- on line 2. It appears that Applicant intended ---server and a client---.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 18-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Since the propagation signal claimed in claims 18-20 is not tangibly embodied on a computer readable medium, the claims are merely a manipulation of abstract ideas.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1,9,12,15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Dillon (US 5,995,725).

14. With regard to claims 1,9,15,and 18, Dillon discloses a communicating system for relaying a communication between a server and a client, comprising: a buffer buffering data transmitted from the server to the client (Queue for storing un ACK'd packets) (Col 11, Lines 46-53) and accelerating data output from the server so as to increase a throughput assigned to a connection to the client by the server (Immediately sends ACK to server) (Col 11, Lines 21-26); and a transferring device transferring data stored in said buffer to the client (Col 11, Lines 34-36). Since the method is performed on computers, a computer program recorded on a computer readable medium is inherent to the system since the computers must be able to read the program in order to perform the method.

15. With regard to claim 12, Dillion discloses a communicating method, comprising: forming a virtual tunnel for hiding a network delay that takes place between a server and a client (Col 6, Line 52- Col 7, Line 13); and using the tunnel as a communication bypass between the server and the client so as to increase a throughput between the server and the client (Getting the server to ACK to the satellite interface allows higher throughput) (Col 11, Lines 21-41).

16. Claims 2,4,6,10,11,16,17,19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Toporek et al. (US 6,460,085).

17. With regard to claims 2,10,16, and 19, Toporek et al. disclose a communicating system for relaying a communication between a server and a client, comprising: a receiving device (satellite gateway) receiving data transmitted from the server to the client (Col 11, Lines 13-14); a converting device (translation module) converting a protocol of the received data (TCP) into another protocol (satellite protocol) (Col 11, Lines 36-38) that allows a larger amount of data to be transferred at a time (larger windows allow for higher throughput) (Col 7, Lines 27-36); and a transmitting device transmitting data converted by said converting device to a network (Col 11, Lines 10-14). Since the method is performed on computers, a computer program recorded on a computer readable medium is inherent to the system since the computers must be able to read the program in order to perform the method.

18. With regard to claim 4, Toporek et al. further disclose an idling device (rate control module) performing an idling operation (queue for later delivery) corresponding to a resource assigned to the client, wherein said transmitting device transmits data after the idling operation is completed (delivered later) (Col 10, Lines 60-63).

19. With regard to claims 6,11,17, and 20, Toporek et al. disclose a communicating system for relaying a communication between a server and a client, comprising: a receiving device receiving data from a network, the data obtained by converting a protocol (TCP) of data transmitted from the server to the client into another protocol (Satellite Protocol) that allows a larger amount of data to be transferred at a time (larger

windows allow for higher throughput) (Col 7, Lines 27-36); a converting device (translation module) converting the protocol of the received data into the original protocol (Col 11, Lines 6-8); and a transmitting device transmitting the data converted by said converting device to the client (Col 11, Lines 10-14). Since the method is performed on computers, a computer program recorded on a computer readable medium is inherent to the system since the computers must be able to read the program in order to perform the method.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toporek et al. (US 6,460,085) in view of Sridhar et al. (US 6,266,701).

22. With regard to claim 3, while the system disclosed by Toporek et al. shows substantial featured of the claimed invention (discussed above), it fails to disclose a multiplexing device multiplexing data of multiple connections converted by said converting device, wherein said transmitting device transmits the multiplexed data.

Sridhar et al. disclose a multiplexing device used to combine information into a

single data stream for transmission (Col 6, Lines 3-5). This would be particularly advantageous for accessing a web page, since multiple concurrent streams are needed under TCP, but they could be multiplexed into a single data stream to reduce overhead (Col 12, Lines 25-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a multiplexing device in the system disclosed by Toporek et al. in order to combine multiple connections into a single data stream in order to reduce overhead. Reducing the overhead will improve the effective throughput of the network and speed up the transfer of user data.

23. With regard to claim 7, while the system disclosed by Toporek et al. shows substantial featured of the claimed invention (discussed above), it fails to disclose a demultiplexing device demultiplexing data that has been multiplexed, wherein said receiving device receives multiplexed data in which data of multiple connections has been multiplexed, wherein said demultiplexing device demultiplexes the received data, and wherein said converting device converts a protocol of the demultiplexed data.

Sridhar et al. disclose a multiplexing device used to combine information into a single data stream for transmission (Col 6, Lines 3-5). This would be particularly advantageous for accessing a web page, since multiple concurrent streams are needed under TCP, but they could be multiplexed into a single data stream to reduce overhead (Col 12, Lines 25-39). Sridhar et al. also disclose a demultiplexing device that is needed in order to demultiplex information received from the remote system (Col 6, Lines 14). The combination of the multiplexer and demultiplexer allows multiple connections to be

combined into a single data stream for transmission over the satellite network with reduced overhead, and converted back into a format which the client can read at the receiving end. This will increase the effective throughput of the satellite network since less data is wasted on overhead.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a demultiplexing device to demultiplex the data stream coming from the satellite network. The combination of a multiplexer and demultiplexer allows multiple connections to be combined into a single data stream in order to reduce overhead. Reducing the overhead will improve the effective throughput of the network and speed up the transfer of user data.

24. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toporek et al. (US 6,460,085) in view of Kirkby et al. (US 6,671,285).

25. With regard to claim 5, while the system disclosed by Toporek et al. shows substantial featured of the claimed invention (discussed above), it fails to disclose a charging device performing a charging process for a service provider of the server, wherein said charging device determines whether or not the request from the client is a request to be issued to the server, wherein when the request from the client is the request to be issued to the server, said charging device charges the service provider.

Kirkby et al. teach a method of charging network users for use of certain network resources. Essentially, this allows users of the network to get improved service my paying more money to the owner of the network they wish to transfer data over. Service

providers with greater bandwidth needs can pay more money and get more bandwidth (Col 2, Lines 36-40). Since a satellite link has considerably higher bandwidth than a conventional link, transfers of large amounts of data can be significantly speeded up, and this would be a valuable service for customers transferring large quantities of data. It would be advantageous to allow service providers with high bandwidth needs to route their data over the satellite link in order to increase the available bandwidth over a conventional link. The service providers would pay more for this privilege, but service for their clients would be improved, benefiting both the providers and the network operator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a charging device to the system disclosed by Toporek et al. in order to charge service providers for transferring data over the satellite link. Since the satellite link provides significantly improved bandwidth over conventional links, service providers would be willing to pay a premium for the improved service, creating a mutually beneficial situation for the network operator and the service providers.

26. With regard to claim 8, while the system disclosed by Toporek et al. shows substantial featured of the claimed invention (discussed above), it fails to disclose a charging device performing a charging process for a user of the client, wherein said charging device receives a request to the server from the network, wherein said charging device determines whether or not the request to the server is a request from the client, and wherein when the request to the server is the request from the client,

said transmitting device transmits the request to the server and said charging device charges the user.

Kirkby et al. teach a method of charging network users for use of certain network resources. Essentially, this allows users of the network to get improved service by paying more money to the owner of the network they wish to transfer data over. Users with greater bandwidth needs can pay more money and get more bandwidth (Col 2, Lines 36-40). Since a satellite link has considerably higher bandwidth than a conventional link, transfers of large amounts of data can be significantly speeded up, and this would be a valuable service for customers transferring large quantities of data. It would be advantageous to allow users with high bandwidth needs to route their data over the satellite link in order to increase the available bandwidth over a conventional link. The users would pay more for this privilege, but their service level would be improved, benefiting both the users and the network operator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a charging device to the system disclosed by Toporek et al. in order to charge users for transferring data over the satellite link. Since the satellite link provides significantly improved bandwidth over conventional links, users with high bandwidth needs would be willing to pay a premium for the improved service, creating a mutually beneficial situation for the network operator and the users.

27. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillon (US 5,995,725) in view of Kirkby et al. (US 6,671,285).

28. With regard to claim 13, while the system disclosed by Dillion shows substantial features of the claimed invention (discussed above), it fails to disclose charging a user of the client for a communication using the virtual tunnel.

Kirkby et al. teach a method of charging network users for use of certain network resources. Essentially, this allows users of the network to get improved service by paying more money to the owner of the network they wish to transfer data over. Users with greater bandwidth needs can pay more money and get more bandwidth (Col 2, Lines 36-40). Since the virtual tunnel disclosed by Dillon uses a satellite link that has considerably higher bandwidth than a conventional link, transfers of large amounts of data can be significantly speeded up, and this would be a valuable service for customers transferring large quantities of data. It would be advantageous to allow users with high bandwidth needs to route their data through the virtual tunnel in order to increase the available bandwidth over a conventional link. The users would pay more for this privilege, but their service level would be improved, benefiting both the users and the network operator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a charging device to the system disclosed by Toporek et al. in order to charge users for transferring data through the virtual tunnel. Since the virtual tunnel uses a satellite link that provides significantly improved bandwidth over conventional links, users with high bandwidth needs would be willing to pay a premium for the improved service, creating a mutually beneficial situation for the network operator and the users.

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29. With regard to claim 14, while the system disclosed by Dillion shows substantial features of the claimed invention (discussed above), it fails to disclose charging a service provider of the server for a communication using the virtual tunnel.


Kirkby et al. teach a method of charging network users for use of certain network resources. Essentially, this allows users of the network to get improved service by paying more money to the owner of the network they wish to transfer data over. Service providers with greater bandwidth needs can pay more money and get more bandwidth (Col 2, Lines 36-40). Since the virtual tunnel disclosed by Dillon uses a satellite link that has considerably higher bandwidth than a conventional link, transfers of large amounts of data can be significantly speeded up, and this would be a valuable service for customers transferring large quantities of data. It would be advantageous to allow service providers with high bandwidth needs to route their data through the virtual tunnel in order to increase the available bandwidth over a conventional link. The service providers would pay more for this privilege, but service for their clients would be improved, benefiting both the providers and the network operator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a charging device to the system disclosed by Toporek et al. in order to charge service providers for transferring data through the virtual tunnel. Since the virtual tunnel uses a satellite link that provides significantly improved bandwidth over conventional links, service providers would be willing to pay a premium for the improved service, creating a mutually beneficial situation for the network operator and the service providers.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 703-305-8878. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 703-305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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